Appl. No. 10/603,890
Amdt. Dated 11/12/2004
Reply to Office Action of July 21, 2004

Amendments to the Specification:

Please replace the paragraph starting on page 10, line 19, with the following:

The circuit architecture presented in Figure 6 is used for precision current sensing of the current delivered to a load connected between IN and GND. In normal operation (no input short-to-ground), the voltage drop between VCC and IN is set by the block B1 (see Figure 5). The voltage V1 is set by the block B2 (see ~~Figure 4~~Figure 3). The block B3 transfers I2 current to the ouput (I_{OUT} = I2). This allows current to voltage conversion through the resistor R. The output voltage V_{OUT} is proportional to the input current I_{IN} over a wide range. Three to six decades of input current variation can be covered.

Please replace the paragraph and following equations that appear on page 12, lines 8-19, with the following:

In preferred designs, the ratio of the current sources I1 and I2 and the ratio of the size of transistors MP3 and MP4, if not one to one, will not be large. With transistor MP1 being N times as large as transistor MP2 where N is usually substantial, when the current IN is zero, the current through transistor MP2 will be I1/N. ~~By picking~~Picking the value of resistor R2 to supply a current to transistor MP4 of I2 - I1/N, ~~the current through transistor MP3 will be equal to I3. Specifically, if:~~then if $I_1 = I_2 = I_3$

R1/R2 = 1 − 1/N

~~Then~~or for any values of I_1, I_2 and I_3:

$$R2 = R1 \frac{I3}{I2 - I1/N}$$